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## TRANSMITTAL FORM

 $\begin{tabular}{ll} FORM \\ \textit{(to be used for all correspondence after initial filing)} \end{tabular}$ 

Application Number	10/815,061			
Filing Date	March 31, 2004			
First Named Inventor	Surajit Chaudhuri			
Group Art Unit	2171			
Examiner Name	N/A			
Attorney Docket Number	301552.01			

Label No.:						
	ENCLOS	SURES (check all that apply)				
Fee Transmittal Form Fee Attached		gnment Papers an Application)		After Allowance Communication to TC  Appeal Communication to Board of		
Amendment / Reply After Final	☐ Draw	ving(s) ( sheets)		Appeals and Interferences		
Affidavits/declaration(s)		aration fewly Executed (pages)		Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)		
Extension of Time Request		copy from a prior application 37 CFR 1.63(d)) ( pages)		Proprietary Information		
Express Abandonment Request	Licer	nsing-related Papers		Status Letter		
☐ Information Disclosure Statement with Form PTO/SB/08A (3 pages)	Petiti	ion		Application Data Sheet		
Response to Notice to File Missing Parts A copy of the Notice to File Missing		ion to Convert to a Provisional		Request for Corrected Filing Receipt		
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(Under 37 CFR § 1.8(a))  I hereby certify that this correspondence is being:		eral Power of Attorney (SB80) 7 CFR 3.73(b) Statement	⊠	Other Enclosure(s) (please identify		
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Box 1450, Alexandria, VA 22313-1450; or  transmitted by facsimile on the date shown below	CD, Number of CD(s) 1					
	Remarks		verpa	authorized to charge any additional ayments, to Deposit Account No. 50-nt application.		
SIGNATURE OF ATTORNEY OR AGENT						
Signature A Minser						
Name of Attorney or Agent Paul Heynssens						
Date March 4, 2005	Tel.	(425) 707-3913	Fa	csimile No. (425) 708-5046		
Assignee Name:		MICROSOFT CORPOI ONE MICROSOFT WA REDMOND, WA 98052	·Υ	ION		
Customer Number:		22971				





### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Surajit Chaudhuri

Attorney Docket No.: 301552.01

Application No.: 10/815,061

Group Art Unit: 2171

Filed: 03/31/2004

Examiner: N/A

Customer No.:

22971

Confirmation Number: 7927

Title: PRIMITIVES FOR WORKLOAD SUMMARIZATION

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria VA 22313-1450

### STATEMENT FILED PURSUANT TO THE DUTY OF DISCLOSURE UNDER 37 C.F.R. §§ 1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

#### PART I: Compliance with 37 C.F.R. § 1.97

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case. No fee is required.

#### PART II: Remarks

The Applicant hereby makes of record in the above-identified application the information listed on the attached forms PTO/SB/08A and 08B. The order of presentation of the references should not be construed as an indication of the importance of the references. Documents cited on the attached forms PTO/SB/08A and 08B are enclosed unless otherwise indicated. It is respectfully requested that:

- The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
- 2. The enclosed form PTO/SB/08A and 08B be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
- 3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. § 102.

Notwithstanding any statement by the Applicant, the Applicant urges the Examiner to form his own conclusion regarding the relevance of the cited information. An early and favorable action is hereby requested.

> Respectfully submitted, Microsoft Corporation, Applicant

Paul Heynssens, Rog. No.

Microsoft Corporation Redmond,

Washington

Telephone (425) 707-3913

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

	Summarization
Application Number	10/815,061
Filing Date	03/31/2004
First Named Inventor	Surajit Chaudhuri
Art Unit	2171
Examiner Name	N/A
Attorney Docket Number	301552.01

Primitives for Workload

	U.S. PATENT DOCUMENTS					
Examiner	Cite	U.S. Patent Document	Publication Date	Name of Patentee or	Pages, Columns, Lines, Where	
Initials*	No.1	Number - Kind Code² (if known)	MM-DD-YYYY	Applicant of Cited  Document	Relevant Passages or Relevant Figures Appear	
	Α	US-				

Title Of Invention

	FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No.1	Foreign Patent Document  Kind Code <sup>3</sup> Country Code <sup>3</sup> Number <sup>4</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited	Pages, Columns, Lines, Where Relevant Passages or Relevant	T <sup>6</sup>
	В			Document	Figures Appear	

	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*					
	С	Aboulnaga, A. and Chaudhuri, S. <i>Self-Tuning Histograms: Building Histograms Without Looking at Data.</i> Proceedings of ACM SIGMOD, Philadelphia, 1999.			
	D	Acharya S., Gibbons P.B., and Poosala V. <i>Congressional Samples for Approximate Answering of Group-By Queries.</i> Proceedings of ACM SIGMOD, 2000.			
	E	Agrawal, S., Chaudhuri, S., and Narasayya, V. <i>Automated Selection of Materialized Views and Indexes for SQL Databases</i> . Proceedings of VLDB 2000.			

Examiner	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this formwith next communication to applicant.

Information Disclosure Statement—PTO/SB/08a&b

Matter No.: 301552.01

<sup>&</sup>lt;sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITALLETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.)., date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
	F	Agrawal S., Chaudhuri S., Kollar L., and Narasayya V. <i>Index Tuning</i>	
		Wizard for Microsoft SQL Server 2000. White paper.	
~		http://msdn.microsoft.com/library/techart/itwforsql.htm	
	G	Borzsonyi S, Stocker K., Kossmann D. <i>The Skyline Operator</i> .	
		Proceedings of ICDE 2001.	
	н	Calzarossa M., and Serazzi G. Workload Characterization: A Survey.	
		Proceedings of IEEE, 81(8), Aug 1993.	
	1	Chandra, A. K., Hirschberg, D. S., and Wong, C. K. <i>Approximate</i>	
		Algorithms For Some Generalized Knapsack Problems, Theoretical	
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	К	Chaudhuri S., Das G., Datar M., Motwani R., and Narasayya V.	
		Overcoming Limitations of Sampling for Aggregation Queries.	
		Proceedings of ICDE 2001.	
	L	Chaudhuri S., Das G., and Narasayya V. A Robust, Optimization-	
		Based Approach for Approximate Answering of Aggregate Queries.	
		Proceedings of ACM SIGMOD 2001.	
	М	Chaudhuri S., Gupta A, and Narasayya V. Compressing SQL	
		Workloads (Workload Compression). Proceedings of ACM SIGMOD	
		2002.	
	N	Chaudhuri S., Kaushik R., and Naughton J.F. On Relational Support for	
		XML Publishing: Beyond Sorting and Tagging. Proceedings of ACM	
		SIGMOD 2003.	
	0	Chaudhuri, S., and Narasayya, V. AutoAdmin "What-If" Index Analysis	
		Utility. Proceedings of S1GMOD 1998.	
	Р	Elnaffar S. A Methodology for Auto-Recognizing DBMS Workloads.	•
		Proceedings of CASCON'02.	

Examiner	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Information Disclosure Statement—PTO/SB/08a&b

Matter No.: 308293.02

<sup>&</sup>lt;sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at <a href="www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that Issued the document, by the two-letter code (MPO StandardST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under MPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITALLETTERS), title of the article (when appropriate), title of the Item (book, magazine, journal, serial, symposium, catalog, etc.)., date, page(s), volume-issue number(s), publisher, city and/or country where published.	T2
	Q	Elnaffar S., Martin P., and Horman R. Automatically Classifying	
		Database Workloads. In Proceedings of CIKM'02.	
	R	Fagin R. Combining fuzzy information from multiple systems.  Proceedings of ACM PODS 1996.	
	S	Fagin R. <i>Fuzzy Queries in Multimedia Database Systems</i> . Proceedings of ACM PODS 1998.	
	Т	Ganti V., Lee M.L., and Ramakrishnan R. <i>ICICLES: Self-tuning Samples</i> for Approximate Query Answering. Proceedings of VLDB 2000.	
	U	Johnson, D.S. <i>Approximation Algorithms for Combinatorial Problems</i> , Journal of Computer and System Sciences, 9 (1974), pp. 256—278.	
	V	Legaria, C. G., and Joshi, M. M. <i>Orthogonal Optimization of Subqueries and Aggregation</i> . Proceedings of SIGMOD 2001.	
	w	Papadias D., Tao Y., Fu G., Seeger B.: <i>An Optimal and Progressive Algorithm for Skyline Queries</i> . Proceedings of ACM SIGMOD 2003.	
	Х	Srinivasan, A. <i>Improved Approximations of Packing and Covering Problems</i> , Proc. 27th Ann. ACM Symposium. on Theory of Comp., pp 268-276, 1995.	
	Y	Stillger M., Lohman C., and Markl V. <i>LEO—DB2's LEarning Optimizer</i> . In Proceedings of VLDB 2001.	
	Z	Tan K., Eng P., Ooi B.C.: <i>Efficient Progressive Skyline Computation</i> .  Proceedings of VLDB 2001.	
	AA	Valentin, G., Zuliani, M., Zilio, D., and Lohman, G. <i>DB2 Advisor: An Optimizer Smart Enough to Recommend Its Own Indexes</i> .  Proceedings of ICDE 2000.	
	ВВ	Yu P., Chen M., Heiss H., and Lee S. <i>On Workload Characterization of Relational Database Environments</i> . IEEE Transactions on Software Engineering, Vol 18, No. 4, April '92.	
	СС	// // // // // // // // // // // // //	

Examiner	Date	
Signature	Considered	<u>.</u>

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Information Disclosure Statement—PTO/SB/08a&b

Matter No.: 308293.02

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	DD	Lovasz L. On the Ratio of Optimal Integral and Fractional Covers.				
		Discrete Mathematics, 13(1975), pp. 383-390.	1			

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